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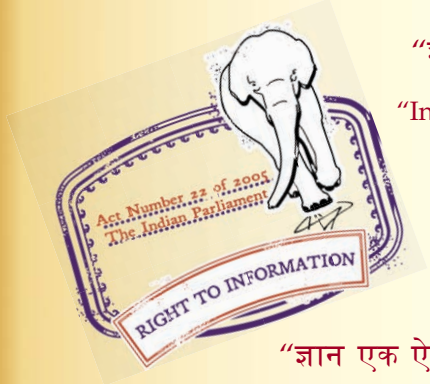

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PART 1 LIGHT FURNITURE

(First Revision)

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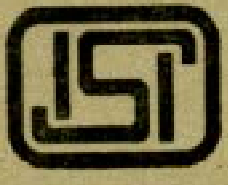

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PART 1 LIGHT FURNITURE

(First Revision)

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Indian Standard

SPECIFICATION FOR CONVERTED TIMBER (CONIFEROUS)

PART 1 LIGHT FURNITURE

(First Revision)

0. FOREWORD

0.1 This Indian Standard (Part 1) (First Revision) was adopted by the Indian Standards Institution on 24 December 1982, after the draft finalized by the Timber Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Specification for coniferous sawn timber is covered in IS : 190-1974*. Timber suitable for light furniture, packing cases and crates has to be converted from such sawn timber. This specification was first published in 1969 for such converted timber with a view to minimizing the wastage during further conversion. Since then, the specification has been used extensively by the furniture and packaging industry. Based on their experience it has now been considered necessary to revise the requirements of converted timber for ensuring its efficient utilization. As such, this revision has been taken up.

0.3 This revision is being published in two parts for convenience of use. In this part, requirements of converted timber for light furniture are covered wherein grading and permissible defects have been modified. Those for packing cases and crates have now been covered separately in Part 2.

0.4 In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

0.5 For the purpose of deciding whether a particular requirements of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Specification for coniferous sawn timber baulks and scantlings (*third revision*).

†Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard covers the coniferous species of timber suitable for manufacture of light furniture and similar works, and specifies the requirements of such timber in converted form (planks and scantlings).

2. TERMINOLOGY

2.0 For the purpose of this standard, the definitions given in IS : 707-1976* and the following shall apply.

2.1 Crack — An actual rupture of the wood tissues, that is, a separation of the fibres in the longitudinal direction.

3. SPECIES

3.1 The planks and scantling shall be of the species of timber listed below:

Standard Trade Name	*Botanical Name*	*Abbreviated Symbols*
Chir	*Pinus roxburghii* (Syn. *P. longifolia*)	CHR
Cypress	*Cupressus torulosa*	CYP
Deodar	*Cedrus deodara*	DEO
Fir	*Abies* spp. (other than *A. densa*)	FIR
Kail	*Pinus wallichiana* (Syn. *P. excelsa*)	KAL
Khasi Pine	*Pinus kesiya* (Syn. *P. insularis, P. khasya*)	KPI
Spruce	*Picea smithiana*	SPR
—	*Pinus* PATULA	—

4. DIMENSIONS AND TOLERANCES

4.1 Dimensions — The dimensions of the planks and scantling shall be as ordered.

4.2 Tolerances — The following tolerances in width and thickness may be permitted on the nominal sizes offered by the suppliers:

a) Width $\pm \frac{3}{1}$ mm Irrespective of the width of pieces.

b) Thickness $\pm \frac{3}{0}$ mm Irrespective of the thickness of pieces.

*Glossary of terms applicable to timber technology and utilization (*second revision*).

4.2.1 The minus tolerance in width shall not be permitted in more than 25 percent of the supplies accepted at any one time.

NOTE — When pieces with a certain width range, say 150 mm to 250 mm, are demanded a minus tolerance on the minimum width, that is, 150 mm or a plus tolerance on the maximum width, that is, 250 mm shall not be permitted.

5. GRADING AND REQUIREMENTS

5.1 The planks and scantling shall be of two grades depending upon prohibited and permissible defects (*see* **5.2** and **7**).

5.2 The planks and scantlings shall be sawn straight and square trimmed at the end. These shall be free from the defects as mentioned below:

Grade 1	*Grade 2*
—	Centre heart
Brashness	—
Wane	Wane
Shakes	Shakes
Spring	Spring
Twist	—
Insect attack	Insect attack
Any kind of decay (rot)	Any kind of decay (rot)
Any other defect (except those permitted in 7)	Any other defect (except those permitted in 7)

5.3 Moisture Content — The moisture content of planks and scantlings at the time of inspection, any time in the year and at any place in India, shall not exceed the following limits when determined in accordance with the method given in IS : 287-1973*.

a)	Timber up to 50 mm in thickness	15 percent
b)	Timber over 50 mm in thickness	16 percent within a depth of 20 mm from the surface.

6. MEASUREMENT

6.1 When nominal sizes are ordered, length, width and thickness of planks and scantlings shall be measured on the basis of accepted sizes; plus tolerances shall not be added while calculating cubical contents.

*Recommendations for maximum permissible moisture content of timber used for different purposes (*second revision*).

6.2 The measurements of length, width, thickness and calculations of volume of planks and scantlings shall be made as follows:

a) *Length* — The length, shall be measured in metres. The fractions of a metre shall be rounded off to the nearest lower 0·01 m;

b) *Width* — The width shall be measured at the narrowest place to the nearest lower one centimetre;

c) *Thickness* — The thickness shall be measured at the narrowest place to the nearest lower 0·5 cm; and

d) *Volume* — The volume shall be calculated correct to three places of decimal on the basis of accepted sizes.

7. PERMISSIBLE DEFECTS

7.1 Plugging of defects shall not be permissible.

7.2 Permissible defects shall be considered collectively and not singly.

7.3 Defects to the extent specified in Table 1, shall be permissible.

The defects shall be measured as given in IS : 3364 (Part II)-1976*.

8. MARKING

8.1 Each piece of timber shall be legibly and indelibly branded at a convenient place with the supplier's name, initials or recognized trade-mark, the year of supply, abbreviation of the species and grade of the timber, using suitable letters for this purpose.

8.1.1 The timber may also be marked with the Cerification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

9. END COATING

9.1 To prevent and to minimize end cracking, splitting, etc, the ends of each plank and scantling, up to a distance of at least 25 mm more than the

*Methods of measurement and evaluation of defects in timber: Part II Converted timber (*first revision*).

length of the longest split, shall be adequately coated with any of the materials mentioned in IS:1141-1973*. Application of end coating on the timber shall be done soon after the inspection of the timbers.

10. PROPHYLACTIC TREATMENT

10.1 All timbers may be given prophylactic treatment as specified in IS:401-1982† subject to agreement between the purchaser and the supplier.

TABLE 1 PERMISSIBLE DEFECTS

(*Clause* 7.3)

Sl No.	Defect	Grade 1	Grade 2
(1)	(2)	(3)	(4)
1.	Bow	shall be permissible up to a maximum of 1·5 mm per 30 cm length of the piece	shall be permissible up to a maximum of 2·0 mm per 30 cm length of the piece
2.	Cup	shall be permissible up to a maximum of 3 mm per 30 cm width of the piece	shall be permissible up to a maximum of 4 mm per 30 cm width of the piece
3.	End splits	The longest end splits at each end shall be measured and the lengths added together. The total length shall not exceed 10 mm per 30 cm length of the piece	The longest end splits at each end shall be measured and the lengths added together. The total length shall not exceed 15 mm per 30 cm length of the piece
4.	Knot	a) Live knots measuring up to 10 mm in diameter and dead knots measuring up to 6 mm in diameter shall be permissible provided these are not so numerous or so grouped or located as to affect unduly the strength of the pieces	a) Live knots measuring up to 25 mm in diameter and dead knots measuring up to 10 mm in diameter shall be permissible provided that these are not so grouped or so numerous or located as to affect unduly the strength of the pieces
		b) Live knots measuring over 10 mm and up to 25 mm in diameter shall be permitted to the extent of one knot per 60 cm length of the piece	b) Live knots measuring over 25 mm and up to 70 mm in diameter shall be permitted to the extent of one knot per 60 cm length of the piece

(*Continued*)

*Code of practice for seasoning of timber (*first revision*).

†Code of practice for preservation of timber (*third revision*).

TABLE 1 PERMISSIBLE DEFECTS — *Contd*

Sl No.	Defect	Grade 1	Grade 2
(1)	(2)	(3)	(4)
		c) Dead knots measuring over 6 mm and up to 15 mm in diameter shall be permissible to the extent of one knot per 1 m length of the piece	c) Dead knots measuring over 10 mm and up to 30 mm in diameter shall be permissible to the extent of one knot per 1 m length of the piece
		d) Knot live on one face and dead on the other shall be treated as dead knot and evaluated in accordance with (a) and (c)	d) Knot live on one face and dead on the others shall be treated as dead knot and evaluated in accordance with (a) and (c)
5.	Sap stain (blue stain)	shall be permissibe unless otherwise specified	shall be permissible
6.	Gross grain	shall be permissible up to a maximum deviation of 1 in 15	shall be permissible up to a maximum deviation of 1 in 12
7.	Surface crack	Any one face (excluding the ends) shall be permissible to the following extent:	Any one face (excluding the ends) shall be permissible to the following extent:
		Thickness of the timber piece — *Depth of the deepest permissible cracks*	*Thickness of the timber pieces* — *Depth of the deepest permissible cracks*
		Up to 50 mm — 1 mm	Up to 50 mm — 2 mm
		Over 50 mm and up to 100 mm — 2 mm	Over 50 mm and up to 100 mm — 3 mm
		Over 100 mm — 4 mm	Over 100 mm — 6 mm
8.	Twist	—	shall be permissible up to a maximum of 4 mm per 30 cm length of the piece when measured across the diagonals on the worst face. Twist shall be permissible in not more than 5 percent of the number of pieces supplied at any one time
9.	Centre heart	—	shall be permissible only in pieces over 500 cm in cross sectional area provided it is sound and not farther than 20 mm from the nearest edge.

(*Continued from page* 2)

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